

- (c) obtaining plant cuttings from a mother plant collected in step (b) by;
- (i) cutting a short segment from a mother plant such that said segment comprises a short root and shoot fragment and is capable of directly regenerating into a whole and morphologically normal plant,
  - (ii) directly transferring said excised segment to a suitable anchorage material; and
- (d) asexually propagating progeny plant(s) from the plant cuttings obtained in step (c) without passing through a callus phase or involving cell or protoplast culture;
- (e) incorporating the so obtained progeny plant into a plant screening program between about 7 days to about 14 days after obtaining the plant cuttings, wherein the progeny plant is treated with a pesticidal compound or a plant pathogen; and
- (f) monitoring the progeny plant for resistance symptoms.

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23. (New) A method according to claim 22, wherein said segment comprises a region that contains a high amount of actively dividing cells.

24. (New) A method according to claim 23, wherein said region comprises meristematic cells.

25. (New) A method according to claim 22, wherein the anchorage material is

- (a) an inert material such as vermiculite, perlite or plastic beads;
- (b) a culture medium commonly applied in plant cultivation; or
- (c) soil.

26. (New) A method according to claim 22 wherein said method is used within a high through-put format.

27. (New) A method according to claim 22, wherein the order of steps (d) and (e) is such that the plant cuttings obtained in step (c) first are (i) dipped into a known concentration(s) of a pesticide-containing solution; or, in the alternative, (ii) sprayed with a known concentration(s) of a pesticide-containing solution before progeny plant(s) are asexually propagated from the plant cuttings.

28. (New) A method according to claim 22, wherein the pesticide is selected from the group consisting of a herbicide, an insecticide and a fungicide.

29. (New) A method according to claim 22, wherein the plant to be tested is a weed plant.